CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/WNo.05/GR/CEMENT/2014-15 Date: 12.08.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
AGENCY	:	**Mr. Gopireddy,** Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to road and drains at Durgamba Layout to Reva College Road in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014
SAMPLE ID	:	CEMENT
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4)	28.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5)	155 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	490 Minutes	Not More than 600 Minutes
3	Soundness by the Le-Chatelier method	IS-4031 (Part 3)	1 mm	Not more than 10 mm

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ಬಿಬಿಎಂಪಿ, ಬೆಂಗಳೂರು-24

ಸಹಾಯಕ/ಅಭಿಯಂತರರು
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Job No.: CTCE/BBMP/WNo.05/GR/SAND/2014-15 : 12.08.2014

TEST REPORT ON FINE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Mr. Gopireddy,** Contractor, Bangalore.

Name of Work : Improvements to road and drains at Durgamba Layout to Reva College Road in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.

Reference : AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014

Date of Testing : 12.08.2014

Material : Sand Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	78	3.90	3.90	96.1	90-100
2.36	200	10.00	13.90	86.1	75-100
1.18	500	25.00	38.90	61.1	55-90
600 Micron	468	23.40	62.30	37.7	35-59
300 Micron	529	26.45	88.75	11.3	8-30
150 Micron	150	7.50	96.25	3.8	0-10

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Job No.: CTCE/BBMP/WNo.05/GR/AGG/2014-15 : 12.08.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Mr. Gopireddy,** Contractor, Bangalore.

Name of Work : Improvements to road and drains at Durgamba Layout to Reva College Road in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.

Reference : AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014

Date of Testing : 12.08.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **26000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	925	3.56	3.56	96.44	95-100
20	16455	63.29	66.85	33.15	30-70
10	5125	19.71	86.56	13.44	10-35
4.75	2600	10.00	96.56	3.44	0-5

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TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Mr. Gopireddy,** Contractor, Bangalore.

Name of Work : Improvements to road and drains at Durgamba Layout to Reva College Road in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.

Reference : AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014

Date of Testing : 12.08.2014

Material : 20mm Aggregates

Total Wt. of Aggregates in gms= **5000**

Tabel - 1

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
40	0	0	0	100	100
20	200	4.00	4.0	96.00	95-100
10	3100	62.00	66.0	34.00	25-55
4.75	1585	31.70	97.7	2.30	0-10

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/WNo.05/GR/STEEL/2014-15 12.08.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. Gopireddy,** Contractor, Bangalore.
Name of the work	:	Improvements to road and drains at Durgamba Layout to Reva College Road in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
Reference	:	AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014
Date of Test	:	12.08.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	12	0.89	515	558	13.45	O.K	O.K

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Job No.: CTCE/BBMP/WNo.05/GR/CUBE/2014-15 21.08.2014

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
Agency	: **Mr. Gopireddy,** Contractor, Bangalore.
Name of the work	: Improvements to road and drains at Durgamba Layout to Reva College Road in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
Reference	: AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014
Sample ID	: Drain Slab Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	14.08.2014	21.08.2014	8.365	350.6	15.58
2	14.08.2014	21.08.2014	8.452	355.6	15.80
3	14.08.2014	21.08.2014	8.205	336.5	14.96

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TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
Agency	: **Mr. Gopireddy,** Contractor, Bangalore.
Name of the work	: Improvements to road and drains at Durgamba Layout to Reva College Road in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
Reference	: AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014
Sample ID	: Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 7^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	16.08.2014	23.08.2014	8.148	346.9	15.42
2	16.08.2014	23.08.2014	8.267	362.4	16.11
3	16.08.2014	23.08.2014	8.346	381.8	16.97

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Job No.: CTCE/BBMP/WNo.05/GR/WMM/Gradation/2014-15 19.08.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Mr. Gopireddy,** Contractor, Bangalore.

Name of Work : Improvements to road and drains at Durgamba Layout to Reva College Road in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.

Reference : AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014

Date of Testing : 19.08.2014

Material : WMM

Sample Location : WMM Mix Plant Oven Dry Wt (gm): 25440

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	969	969	3.8	96.2	95-100
22.4	6235	7204	28.3	71.7	60-80
11.2	5547	12751	50.1	49.9	40-60
4.75	4326	17077	67.1	32.9	25-40
2.36	3529	20606	81.0	19.0	15-30
0.600	2645	23251	91.4	8.6	8-22
0.075	1894	25145	98.8	1.2	0-8

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Job No.: CTCE/BBMP/WNo.05/GR/SDBC/Bitumen/2014-15 23.08.2014

BITUMEN CONTENT AND GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX
AASHTO T 164 & AASHTO T 30

CLIENT	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. Gopireddy,** Contractor, Bangalore.
NAME OF THE WORK	Improvements to road and drains at Durgamba Layout to Reva College Raod in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/Byatarayanapura/BBMP/71/2014-15 Dated: 13.08.2014
SAMPLE I/D	Durgamba Layout to Reva College Raod in Ward No. 05
DATE OF TESTING	23.08.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	477	476
3. Weight of Asphalt and Mineral matter Extracted,	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	23	24.00
7. Bitumen content in %	4.60	4.80
8. Average	4.70	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	24.56	5.15	5.15	94.85	90-100
4.75	241.75	50.68	55.83	44.17	35-51
2.36	48.96	10.26	66.09	33.91	24-39
1.18	52.62	11.03	77.13	22.87	15-30
0.3	41.31	8.66	85.79	14.21	9-19
0.075	39.69	8.32	94.11	5.89	3-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	23.78	4.76	4.76	95.24	90-100
4.75	236.95	47.39	52.15	47.85	35-51
2.36	95.86	19.17	71.32	28.68	24-39
1.18	46.23	9.25	80.56	19.44	15-30
0.3	26.45	5.29	85.85	14.15	9-19
0.075	37.59	7.52	93.37	6.63	3-8

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